## VOLUME CONTENTS

### Number 1


| | | |
|---|---|---|
| **V. Busuioc and D. Iftimie** | 1 | Global existence and uniqueness of solutions for the equations of third grade fluids |
| **K. Vajravelu and B.V.R. Kumar** | 13 | Analytical and numerical solutions of a coupled non-linear system arising in a three-dimensional rotating flow |
| **S. Banerjee, P. Saha and A.R. Chowdhury** | 25 | On the application of adaptive control and phase synchronization in non-linear fluid dynamics |
| **Q. Bi** | 33 | Dynamical analysis of two coupled parametrically excited van der Pol oscillators |
| **R. Quintanilla** | 55 | Comparison arguments and decay estimates in non-linear viscoelasticity |
| **A.A. Barhorst** | 63 | Systematic closed form modeling of hybrid parameter multiple body systems |
| **M.S. Fofana and P.B. Ryba** | 79 | Parametric stability of non-linear time delay equations |
| **A.H.P. van der Burgh and Hartono** | 93 | Rain-wind-induced vibrations of a simple oscillator |
| **D.W. Barclay** | 101 | Shock calculations for axially symmetric shear wave propagation in a hyperelastic incompressible solid |
| **A.A. Barhorst** | 123 | On the efficacy of pseudo-coordinates—Part 1: moving interior constraints |
| **A.A. Barhorst** | 137 | On the efficacy of pseudo-coordinates—Part 2: moving boundary constraints |
| **R. Usha and R. Ravindran** | 153 | Analysis of cooling of a conducting fluid film of non-uniform thickness on a rotating disk |
| **P.G. Siddheshwar and S. Pranesh** | 165 | An analytical study of linear and non-linear convection in Boussinesq–Stokes suspensions |


### Number 2


| | | |
|---|---|---|
| | 173 | Publisher's note |
| **A. Tabiei and I. Ivanov** | 175 | Materially and geometrically non-linear woven composite micro-mechanical model with failure for finite element simulations |
| **L. Xinye, C. Yushu and W. Zhiqiang** | 189 | Non-linear normal modes and their bifurcation of a class of systems with three double of pure imaginary roots and dual internal resonances |

| | | |
|---|---|---|
| **S. Baek and A.R. Srinivasa** | 201 | Diffusion of a fluid through an elastic solid undergoing large deformation |
| **M.M. Carroll** | 219 | A representation theorem for volume-preserving transformations |
| **C. Fetecau** | 225 | Analytical solutions for non-Newtonian fluid flows in pipe-like domains |
| **K. Kanaka Durga and M. Ramakrishna** | 233 | A new multigrid algorithm for non-linear equations in conjunction with time-marching procedures |
| **I. Samohýl and W. Pabst** | 247 | Phase equilibrium in non-fluids and non-fluid mixtures |
| **E. Momoniat and S. Abelman** | 265 | An investigation into the spreading of a thin liquid drop under gravity on a slowly rotating disk |
| **S.-J. Liao** | 271 | An analytic approximate approach for free oscillations of self-excited systems |
| **T.I. Zohdi** | 281 | Staggering error control of a class of inelastic processes in random microheterogeneous solids |
| **E. Kanso and P. Papadopoulos** | 299 | Dynamics of pseudo-rigid ball impact on rigid foundation |
| **T. Bakri, R. Nabergoj, A. Tondl and F. Verhulst** | 311 | Parametric excitation in non-linear dynamics |
| **G. Saccomandi** | 331 | Elastic rods, Weierstrass' theory and special travelling waves solutions with compact support |
| **G. Muscolino, G. Ricciardi and P. Cacciola** | 341 | Erratum to "Monte Carlo simulation in the stochastic analysis of non-linear systems under external stationary Poisson white noise input" [Int. J. Non-Linear Mech. 38 (2003) 1269–1283] |


**Number 3**


| | | |
|---|---|---|
| **C. Desceliers and C. Soize** | 343 | Non-linear viscoelastodynamic equations of three-dimensional rotating structures in finite displacement and finite element discretization |
| **E. Baesu, R.E. Rudd, J. Belak and M. McElfresh** | 369 | Continuum modeling of cell membranes |
| **L.-I. Palade, J.R. Walton and A. Farina** | 379 | A new constitutive equation that models extensional flow strain hardening based on evolving natural configurations: stability analysis |
| **M.L. Gandarias, M. Torrisi and A. Valenti** | 389 | Symmetry classification and optimal systems of a non-linear wave equation |

| | | |
|---|---|---|
| **H.W. Haslach and J.D. Humphrey** | 399 | Dynamics of biological soft tissue and rubber: internally pressurized spherical membranes surrounded by a fluid |
| **I.I. Blekhman and P.S. Landa** | 421 | Conjugate resonances and bifurcations in nonlinear systems under biharmonical excitation |
| **K.-Y. Kung, X. Cheng-Hsing Hsu and H.L. Chiang** | 427 | Transient mixed convection flow of a second grade viscoelastic fluid past an inclined backward facing step |
| **M.E. Erdoğan** | 441 | Diffusion of a line vortex in a second-order fluid |
| **E. Momoniat** | 447 | Propogation of waves in a linear elastic fluid |
| **P.M. Mariano, C.M. Casciola and E. De Angelis** | 457 | Substructural interactions and transport in polymer flows |
| **A. Sarkar and M.P. Paidoussis** | 467 | A cantilever conveying fluid: coherent modes versus beam modes |
| **A.N. Gent and K.-C. Hua** | 483 | Torsional instability of stretched rubber cylinders |
| **D.V. Ramani, W.L. Keith and R.H. Rand** | 491 | Perturbation solution for secondary bifurcation in the quadratically-damped Mathieu equation |
| **J.F. Wilson and E.G. Callis** | 503 | The dynamics of loosely jointed structures |


**Number 4**


| | | |
|---|---|---|
| **V.H. Tüzel and H.A. Erbay** | 515 | The dynamic response of an incompressible non-linearly elastic membrane tube subjected to a dynamic extension |
| **Ch. Tsakmakis and A. Willuweit** | 539 | A comparative study of kinematic hardening rules at finite deformations |
| **K.W. MacEwen** | 555 | The follower load problem and bifurcation to periodic motions |
| **W.Q. Zhu** | 569 | Lyapunov exponent and stochastic stability of quasi-non-integrable Hamiltonian systems |
| **C. Ferrario, A. Passerini and G. Thäter** | 581 | Generalization of the Lorenz model to the two-dimensional convection of second-grade fluids |
| **R. Khiri** | 593 | Coriolis effect on convection for a low Prandtl number fluid |
| **I. Ario** | 605 | Homoclinic bifurcation and chaos attractor in elastic two-bar truss |
| **V.L. Popov** | 619 | Nanomachines: a general approach to inducing a directed motion at the atomic level |
| **S. Ching Quek, A.M. Waas, K.W. Shahwan and V. Agaram** | 635 | Compressive response and failure of braided textile composites: Part 1—experiments |

| | | |
|---|---|---|
| **S. Ching Quek, A. Waas, K.W. Shahwan and V. Agaram** | 649 | Compressive response and failure of braided textile composites: Part 2—computations |
| **M. Yürüsoy** | 665 | Similarity solutions for creeping flow and heat transfer in second grade fluids |
| **U. von Wagner** | 673 | Non-linear longitudinal vibrations of non-slender piezoceramic rods |
| **P.M. Mariano, C.M. Casciola and E. De Angelis** | 689 | Erratum to "Substructural interactions and transport in polymer flows" [Int. J. Non-Linear Mech. 39 (2004) 457–465] |


**Number 5**


| | | |
|---|---|---|
| **H.-C. Chung, J. Liang, S. Kushiyama and M. Shinozuka** | 691 | Digital image processing for non-linear system identification |
| **V.P. Panoskaltsis, S. Bahuguna and D. Soldatos** | 709 | On the thermomechanical modeling of shape memory alloys |
| **L. Librescu, D. Hasanyan and D.R. Ambur** | 723 | Electromagnetically conducting elastic plates in a magnetic field: modeling and dynamic implications |
| **M. Yaman and S. Sen** | 741 | The analysis of the orientation effect of non-linear flexible systems on performance of the pendulum absorber |
| **U. von Wagner** | 753 | On non-linear stochastic dynamics of quarter car models |
| **T. Hayat and K. Hutter** | 767 | Rotating flow of a second-order fluid on a porous plate |
| **R.P. Agarwal and D. O'Regan** | 779 | An infinite interval problem arising in circularly symmetric deformations of shallow membrane caps |
| **K.H. Shirazi and M.H. Ghaffari-Saadat** | 785 | Chaotic motion in a class of asymmetrical Kelvin type gyrostat satellite |
| **A.-R.A. Khaled and K. Vafai** | 795 | The effect of the slip condition on Stokes and Couette flows due to an oscillating wall: exact solutions |
| **T.R. Mahapatra and A.S. Gupta** | 811 | Stagnation-point flow of a viscoelastic fluid towards a stretching surface |
| **A. Tondl and R. Nabergoj** | 821 | The effect of parametric excitation on a self-excited three-mass system |
| **P.K. Currie** | 833 | The Attainable Region of strain-invariant space for elastic materials |
| **G. Kang, Q. Gao and X. Yang** | 843 | Uniaxial and non-proportionally multiaxial ratcheting of SS304 stainless steel at room temperature: experiments and simulations |

**B.S. Wu and C.W. Lim** 859 Large amplitude non-linear oscillations of a general conservative system

**Number 6**

**R. Haiwu, M. Guang, W. Xiangdong, X. Wei and F. Tong** 871 Response statistic of strongly non-linear oscillator to combined deterministic and random excitation

**W.Q. Zhu and Z.L. Huang** 879 Stochastic stabilization of quasi non-integrable Hamiltonian systems

**A. Post and W. Stuiver** 897 Modeling non-linear oscillators: a new approach

**Y.-H. Zhou and J. Wang** 909 Vibration control of piezoelectric beam-type plates with geometrically nonlinear deformation

**O.M. O'Reilly and M.H. Tan** 921 Steady motions of an axisymmetric satellite: an atlas of their bifurcations

**C. Babaoglu and S. Erbay** 941 Two-dimensional wave packets in an elastic solid with couple stresses

**Z. Huang** 951 The equilibrium equations and constitutive equations of the growing deformable body in the framework of continuum theory

**S. Murata and K. Nozaki** 963 Renormalization group symmetry method and gas dynamics

**F. Peyraut** 969 Loading restrictions for the Blatz–Ko hyperelastic model—application to a finite element analysis

**B.I. Epureanu, L.S. Tang and M.P. Païdoussis** 977 Coherent structures and their influence on the dynamics of aeroelastic panels

**S. Saadat, G.D. Buckner, T. Furukawa and M.N. Noori** 993 An intelligent parameter varying (IPV) approach for non-linear system identification of base excited structures

**M.S. Mongiovì and R.A. Peruzza** 1005 Attenuation of the fourth sound in liquid helium II via extended thermodynamics

**D.P. Mason and E. Momoniat** 1013 Axisymmetric spreading of a thin liquid drop with suction or blowing at the horizontal base

**T. Hayat, Y. Wang and K. Hutter** 1027 Hall effects on the unsteady hydromagnetic oscillatory flow of a second-grade fluid

**J.D. Clayton, D.J. Bammann and D.L. McDowell** 1039 Anholonomic configuration spaces and metric tensors in finite elastoplasticity

**K. Zakaria** 1051 Wilton ripples between two uniform streaming magnetic fluids

**Number 7**


| | | |
|---|---|---|
| **S. Abel, P.H. Veena, K. Rajgopal and V.K. Pravin** | 1067 | Non-Newtonian magnetohydrodynamic flow over a stretching surface with heat and mass transfer |
| **A.F. Vakakis and R.H. Rand** | 1079 | Non-linear dynamics of a system of coupled oscillators with essential stiffness non-linearities |
| **G.M. Kulikov and S.V. Plotnikova** | 1093 | Finite deformation plate theory and large rigid-body motions |
| **S.F. Masri, J.P. Caffrey, T.K. Caughey, A.W. Smyth and A.G. Chassiakos** | 1111 | Identification of the state equation in complex non-linear systems |
| **E. Kanso and P. Papadopoulos** | 1129 | Pseudo-rigid ball impact on an oscillating rigid foundation |
| **R.P. Pacheco and V. Steffen Jr.** | 1147 | On the identification of non-linear mechanical systems using orthogonal functions |
| **J. Kuang, P.A. Meehan, A.Y.T. Leung and S. Tan** | 1161 | Nonlinear dynamics of a satellite with deployable solar panel arrays |
| **D.M. Haughton** | 1181 | On non-linear stability in unconstrained non-linear elasticity |
| **D.J. Steigmann** | 1193 | Equilibrium theory for magnetic elastomers and magnetoelastic membranes |
| **A. Hasanov** | 1217 | Integral convexity argument for plasticity function and monotonicity of iteration process for elasto-plastic problems |
| **R. Nazar, N. Amin, D. Filip and I. Pop** | 1227 | Stagnation point flow of a micropolar fluid towards a stretching sheet |
| **K.-Y. Kung, C.-H. Hsu and H.-L. Chiang** | 1237 | Erratum to "Transient mixed convection flow of a second grade viscoelastic fluid past an inclined backward facing step" [Int. J. Non-Linear Mech. 39 (2003) 427–439] |


**Number 8**


| | | |
|---|---|---|
| **T.G. Myers, H.X. Liang and B. Wetton** | 1239 | The stability and flow of a rivulet driven by interfacial shear and gravity |
| **M.L. Szwabowicz and W. Pietraszkiewicz** | 1251 | Determination of the deformed position of a thin shell from surface strains and height function |
| **K. Sadeghy and M. Sharifi** | 1265 | Local similarity solution for the flow of a "second-grade" viscoelastic fluid above a moving plate |
| **L.-I. Palade** | 1275 | An integral constitutive law for viscoelastic fluids based on the concept of evolving natural configurations: stability analysis |

**A.V. Porubov and F. Pastrone** 1289 Non-linear bell-shaped and kink-shaped strain waves in microstructured solids

**S. Baek and A.R. Srinivasa** 1301 Modeling of the pH-sensitive behavior of an ionic gel in the presence of diffusion

**G.N. Jazar** 1319 Stability chart of parametric vibrating systems using energy-rate method

**U. Akyuz** 1333 Separation at the interface of non-linearly elastic spinning tube–rigid shaft subjected to circumferential shear

**M.S. Alam** 1343 A modified and compact form of Krylov–Bogoliubov–Mitropolskii unified method for solving an *n*th order non-linear differential equation

**A.V. Porubov, G.A. Maugin and V.V. Mareev** 1359 Localization of two-dimensional non-linear strain waves in a plate

**P.M. Jordan, A. Puri and G. Boros** 1371 On a new exact solution to Stokes' first problem for Maxwell fluids

**M.E. Erdoğan and C.E. İmrak** 1379 Effects of the side walls on the unsteady flow of a second-grade fluid in a duct of uniform cross-section

**H. Tanrıöver and E. Şenocak** 1385 Large deflection analysis of unsymmetrically laminated composite plates: analytical-numerical type approach

**Number 9**

**Y.K. Lin and G.Q. Cai** 1393 Guest editorial

**S.H. Crandall** 1395 On using non-Gaussian distributions to perform statistical linearization

**G. Gao and Y. Yong** 1407 Partial-average-based equations of incompressible turbulent flow

**Z.L. Huang and W.Q. Zhu** 1421 Stochastic averaging of quasi-integrable Hamiltonian systems under combined harmonic and white noise excitations

**S.J. Li, Y. Suzuki and M. Noori** 1435 Improvement of parameter estimation for non-linear hysteretic systems with slip by a fast Bayesian bootstrap filter

**H.J. Pradlwarter and G.I. Schuëller** 1447 Excursion probabilities of non-linear systems

**A.W. Smyth and S.F. Masri** 1453 The robustness of an efficient probabilistic data-based tool for simulating the non-stationary response of non-linear systems

**C. Wu and G.Q. Cai** 1463 Effects of excitation probability distribution on system responses

| | | |
|---|---|---|
| **W. Xu, Q. He, T. Fang and H. Rong** | 1473 | Stochastic bifurcation in duffing system subject to harmonic excitation and in presence of random noise |
| **J.N. Yang and S. Lin** | 1481 | On-line identification of non-linear hysteretic structures using an adaptive tracking technique |
| **J.S. Yu and Y.K. Lin** | 1493 | Numerical path integration of a non-homogeneous Markov process |
| **R.R. Zhang, L. VanDemark, J. Liang and Y. Hu** | 1501 | On estimating site damping with soil non-linearity from earthquake recordings |
| **X.Y. Zheng and C.Y. Liaw** | 1519 | Non-linear frequency-domain analysis of jack-up platforms |
| **W.Q. Zhu and M.L. Deng** | 1535 | Optimal bounded control for minimizing the response of quasi-integrable Hamiltonian systems |


**Number 10**


| | | |
|---|---|---|
| **K.R. Rajagopal and A.S. Wineman** | 1547 | A note on viscoelastic materials that can age |
| **A.B. Sotiropoulou and D.E. Panayotounakos** | 1555 | Exact parametric analytic solutions of the elastica ODEs for bars including effects of the transverse deformation |
| **F.T. Akyildiz, H. Bellout and K. Vajravelu** | 1571 | Exact solutions of nonlinear differential equations arising in third grade fluid flows |
| **M. Dado, S. Al-Sadder and O. Abuzeid** | 1579 | Post-buckling behavior of two elastica columns linked with a rotational spring |
| **R. Usha and B. Uma** | 1589 | Long waves on a viscoelastic film flow down a wavy incline |
| **İ.T. Dolapçı and M. Pakdemirli** | 1603 | Approximate symmetries of creeping flow equations of a second grade fluid |
| **T. Hayat, M. Khan, A.M. Siddiqui and S. Asghar** | 1621 | Transient flows of a second grade fluid |
| **A.N. Kounadis, C.J. Gantes and I.G. Raftoyiannis** | 1635 | A geometric approach for establishing dynamic buckling loads of autonomous potential N-degree-of-freedom systems |
| **I.-C. Liu** | 1647 | Effect of modulation on onset of thermal convection of a second-grade fluid layer |
| **V.K. Kalpakides and K.G. Balassas** | 1659 | Symmetry groups and similarity solutions for a free convective boundary-layer problem |
| **H.N. Arafat and A.H. Nayfeh** | 1671 | Modal interactions in the vibrations of a heated annular plate |

**S. Saadat, M.N. Noori, G.D. Buckner, T. Furukawa and Y. Suzuki** 1687 Structural health monitoring and damage detection using an intelligent parameter varying (IPV) technique

**A. Dorfmann, R.W. Ogden and G. Saccomandi** 1699 Universal relations for non-linear magnetoelastic solids

**M.K. Singha and M. Ganapathi** 1709 Large amplitude free flexural vibrations of laminated composite skew plates

**F. Al-Bender, W. Symens, J. Swevers and H. Van Brussel** 1721 Theoretical analysis of the dynamic behavior of hysteresis elements in mechanical systems

***Erratum***

**M.L. Szwabowicz and W. Pietraszkiewicz** 1737 Erratum to "Determination of the deformed position of a thin shell from surface strains and height function" [Int. J. Non-Linear Mech. 39 (2004) 1251–1263]

I Volume Contents and Author Index to Volume 39 (2004)